AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Cancelled).

2. (Previously Presented): A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

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a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit writes data to said ferroelectric gate field-effect transistors in order of a row,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

3. (Previously Presented): The two-dimensional active-matrix type light modulation device as set forth in claim 2, wherein said drive circuit writes data to all of said pixels and then applies a voltage for driving said light modulating layer between said counter electrode and said

pixel electrode in common for all pixels.

4. (Previously Presented): A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field-effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or said first polarization state, in accordance with said input of data,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel

5. (Previously Presented): A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed

between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

6. (Previously Presented): A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes wherein said drive circuit performs modulation by binary static drive,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

7. (Cancelled).

8. (Previously Presented): A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit writes data to said ferroelectric gate field-effect transistors in order of a row,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

9. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 8, wherein said drive circuit writes data to all of said pixels and then allows a current for driving said light-emitting layer to pass through said counter electrode and said pixel electrode in common for all pixels.

10. (Previously Presented): A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix

consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or said first polarization state, in accordance with said input of data,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

11. (Previously Presented): A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

12. (Previously Presented): The two dimensional active-matrix type light modulation device according to claim 2, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field-effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or so said first polarization state is held in accordance with said input of data.

13. (Previously Presented): The two dimensional active-matrix type light modulation device according to claim 2, wherein aid drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor.

14. (Previously Presented): The two dimensional active-matrix type light modulation device according to any one of claims 2, 4 and 5, wherein said drive circuit performs modulation by binary static drive.

15. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 8, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or said first polarization state is held in accordance with said input of data.

16. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 8 or 10, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor.

17. (Cancelled).

18. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 13, wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

19. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 14, wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

20. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in any one of claims 8-11 and 15, wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

21. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 16, wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel.

22. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in any one of claims 2-6 and 12, wherein the ferroelectric gate field-effect transistor consists of a single type of semiconductor selected from one of an n-type and a p-type semiconductor.

23. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 13, wherein the ferroelectric gate field-effect transistor consists of a single type of semiconductor selected from one of an n-type and a p-type semiconductor.

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24. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 14, wherein the ferroelectric gate field-effect transistor consists of a single type of semiconductor selected from one of an n-type and a p-type semiconductor.

25. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in any one of claims 8-11 and 15, wherein the ferroelectric gate field-effect transistor consists of a single type of semiconductor selected from one of an n-type and a p-type semiconductor.

26. (Previously Presented): The two-dimensional active-matrix type light-emitting device as set forth in claim 16, wherein the ferroelectric gate field-effect transistor consists of a single type of semiconductor selected from one of an n-type and a p-type semiconductor.

27. (Previously Presented): A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein a gate of the ferroelectric field effect transistor is directly connected to line selecting one of said rows.

28. (Currently Amended): ~~The device of claim 2,~~ A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit writes data to said ferroelectric gate field-effect transistors in order of a row,

wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor

per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

29. (Currently amended): ~~The device of claim 4,~~ A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field-effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or said first polarization state, in accordance with said input of data, wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

30. (Currently amended): ~~The device of claim 5,~~ A two-dimensional active-matrix type

light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor,

wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

31. (Currently amended): ~~The device of claim 6,~~ A two-dimensional active-matrix type light modulation device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light modulating layers, each light modulating layer being interposed between said pixel electrode and said counter electrode for modulating light incident thereon in accordance with an applied voltage between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes wherein said drive circuit performs modulation by binary static drive,

wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

32. (Currently amended): ~~The device of claim 8,~~ A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit writes data to said ferroelectric gate

field-effect transistors in order of a row,

wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

33. (Currently amended): ~~The device of claim 10,~~ A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit changes a ferroelectric gate of said ferroelectric gate field effect transistor to a first polarization state and then writes data in accordance with input of data, changing said first polarization state to a second polarization state, or said first polarization state, in accordance with said input of data,

wherein the ferroelectric gate field-effect transistor comprises a first ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor

per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

34. (Currently amended): ~~The device of claim 11,~~ A two-dimensional active-matrix type light-emitting device comprising:

a plurality of pixel electrodes arranged in the form of a two-dimensional matrix consisting of rows and columns;

a plurality of counter electrodes;

a plurality of light-emitting layers, each light-emitting layer being interposed between said pixel electrode and said counter electrode for emitting light in accordance with current flowing through the light-emitting layer between said pixel electrode and said counter electrode; and

a drive circuit constituted by ferroelectric gate field-effect transistors respectively connected to said pixel electrodes, wherein said drive circuit performs row selection with a gate electrode of said ferroelectric gate field-effect transistor and writes data with a source electrode and drain electrode of said ferroelectric gate field-effect transistor and a substrate electrode or back-surface electrode of said ferroelectric gate field-effect transistor,

wherein the ferroelectric gate field-effect transistor comprises a single ferroelectric gate field-effect transistor per pixel, wherein the ~~single~~ first ferroelectric gate field effect transistor per pixel has its gate directly connected to a first data line, and said device further comprising a second ferroelectric gate field-effect transistor per pixel, said second ferroelectric gate field-effect transistor having its gate directly connected to a second data line.

35. (New): A two-dimensional active-matrix type light modulation device according to claim 2, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

36. (New): A two-dimensional active-matrix type light modulation device according to claim 4, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

37. (New): A two-dimensional active-matrix type light modulation device according to claim 5, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

38. (New): A two-dimensional active-matrix type light modulation device according to claim 6, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

39. (New): A two-dimensional active-matrix type light-emitting device according to claim 8, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

40. (New): A two-dimensional active-matrix type light-emitting device according to claim 10, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.

41. (New): A two-dimensional active-matrix type light-emitting device according to claim 11, wherein the single ferroelectric gate field effect transistor has its gate directly connected to a first data line.